### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization

International Bureau



## - 1 MARIN BINDUNG NE TUTUK BINDA BINDA

(43) International Publication Date 3 June 2004 (03.06.2004)

PCT

# (10) International Publication Number WO 2004/046067 A3

(51) International Patent Classification<sup>7</sup>:

C07C 253/34

(21) International Application Number:

PCT/EP2003/012834

(22) International Filing Date:

13 November 2003 (13.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/426,537

15 November 2002 (15.11.2002) Us

(71) Applicant (for all designated States except US): AKZO NOBEL N.V. [NL/NL]; Velperweg 76, NL-6824 BM Amhem (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): TELSCHOW, Jeffrey, Earl [US/US]; 47 Sunset Lane, Croton-on Hudson, NY 10520 (US).

(74) Agent: SCHALKWIJK, Pieter, Cornelis; Akzo Nobel N.V., Intellectual Property Dept. (Dept. AIP), P.O. Box 9300, NL-6800 SB Arnhem (NL). (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 22 July 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PURIFICATION/DECOLORIZATION TREATMENT FOR FATTY NITRILES

(57) Abstract: The present invention contemplates a process for the removal of impurities comprising amides, but which may include other impurities such as amines, from a solution of the nitrites and impurities. A reaction mixture is first formed and to that reaction mixture, 0.5 to 3wt% of approximately 60% H2SO<sub>4</sub> is stirred in at room temperature and atmospheric pressure for a time effective for the removal of the amide impurities. Typically, after about 30 minutes, the amide impurity is removed into the lower, dark acid layer, probably as a salt. The remaining nitrile, after decantation or filtration, is still colored but is substantially free of amide. In a to second step, at room temperature or at a temperature of up to ~80°C, color can be removed from the nitrile by stirring the acid-washed nitrile with 0.5-5 wt% of clay (bentonite), charcoal, zeolitic type materials, mixtures thereof and the like.

